

1 1. A method of detecting a characteristic of an
2 optical device having at least two optical inputs and two
3 optical outputs comprising:
4 coupling a light source to said device through a
5 switch which has at least one input and at least two
6 outputs, the at least two outputs of said switch being
7 coupled to the two inputs of said device; and
8 coupling each of the two outputs of said device
9 to a different detector.

1 2. The method of claim 1 including coupling said
2 light source to said switch through a polarization
3 controller.

1 3. The method of claim 2 including coupling said
2 light source to said optical switch through a polarization
3 controller that generates the four Mueller polarization
4 states.

1 4. The method of claim 1 including scanning the four
2 Mueller polarization states to the first input and
3 detecting both outputs of said device.

1 5. The method of claim 4 including after scanning
2 the four polarization states to the first input and both
3 outputs, scanning the four polarization states to the
4 second input and detecting both outputs.

1 6. The method of claim 1 including providing a light
2 output to said detectors simultaneously.

1 7. A test apparatus for detecting a characteristic
2 of an optical device having at least two optical inputs and
3 two optical outputs, said apparatus comprising:
4 a light source;
5 a 1 x at least 2 optical switch coupled to
6 receive light from said light source, said optical switch
7 having at least two outputs coupled to said at least two
8 optical inputs of said device; and
9 at least two photo detectors each of which is
10 coupled to a different one of said at least two optical
11 outputs.

1 8. The apparatus of claim 7 including a polarization
2 controller coupled between said light source and said
3 optical switch.

1 9. The apparatus of claim 8 wherein said
2 polarization controller successively generates the four
3 Mueller polarization states.

1 10. The apparatus of claim 8 wherein said optical
2 switch provides a signal to a first optical input of said
3 device and outputs are detected at each of said photo
4 detectors simultaneously.

1 11. A method comprising:
2 providing a light source to a polarization
3 controller;
4 generating different polarization states from
5 said polarization controller;
6 successively providing said polarization states
7 to a first input port of a device under test;
8 simultaneously providing outputs from said device
9 under test to at least two different photodetectors; and
10 thereafter successively providing different
11 polarization states to a second input port of said device
12 under test and simultaneously detecting output signals from
13 two different output ports of said device under test.

1 12. The method of claim 11 including generating the
2 four Mueller polarization states.

1 13. The method of claim 11 including providing a 1 x
2 at least 2 optical switch between said polarization
3 controller and the at least two input ports of said device
4 under test.

1 14. An optical measurement system comprising:
2 a light source;
3 a polarization controller to produce different
4 polarization states;
5 at least two photodetectors; and
6 an element to successively provide different
7 polarization states to a first input port of a device under
8 test and to simultaneously provide outputs from said device
9 under test to said photodetectors and to thereafter
10 successively provide different polarization states to a
11 second input port of a device under test and simultaneously
12 detect output signals from two different output ports of
13 said device under test.

1 15. The system of claim 14 wherein said controller is
2 a Mueller polarization state generating controller.

1 16. The system of claim 15 wherein said element
2 includes a 1 x at least 2 optical switch.

1 17. An optical measurement system comprising:
2 a light source;
3 a polarization controller coupled to said light
4 source to produce at least four Mueller polarization
5 states;
6 a 1 x at least 2 optical switch coupled to the
7 output of said polarization controller and connectable to
8 at least two input ports of a device under test; and
9 at least two photo detectors connectable to
10 different ones of at least two output ports of a device
11 under test.

1 18. The system of claim 17 wherein said first and
2 second photo detectors are arranged to simultaneously
3 detect outputs from said device.

1 19. The system of claim 18 wherein said controller is
2 set to successively generate said four Mueller polarization
3 states.